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HOW TO BUILD FROM A DREAM

Commercializing Science
Innovation and Entrepreneurship

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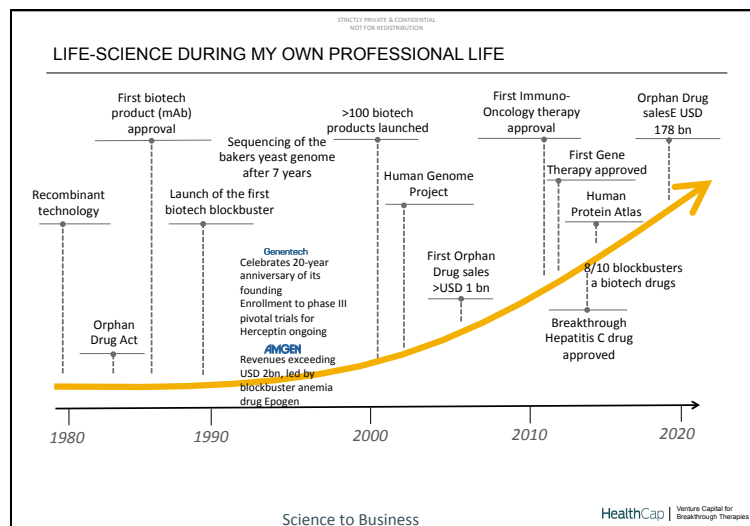
Background

- KI trained M.D., Ph.D., recent 31 years in private companies, partner in HealthCap recent 22 years
- CEO or chairman of
 - Calab (clinical laboratory, today part of Capio)
 - Pyrosequencing (DNA sequencing technology)
 - Melacure (drug discovery, bankrupt)
 - Xcounter (digital X-ray technology)
 - Eureka (pharmacogenomics)
 - Affibody (affinity molecule platform)
 - Global Genomics (large scale DNA-sequencing)
 - Biolipox (drug discovery, inflammation, asthma)
 - Visual Bioinformatics (bioinformatic software)
 - Creative Peptides (drug development, type 1 DM)
 - Biostratum (USA, drug development, type 2 Diabetes)
 - Ultrasonix (ultrasound based surgical instrument)
 - Nordic Vision Clinics (refractive eye surgery)
 - Glionova AB

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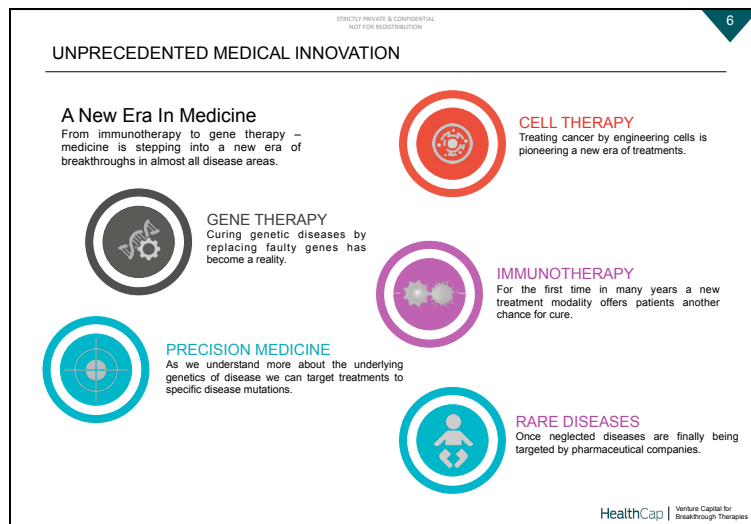
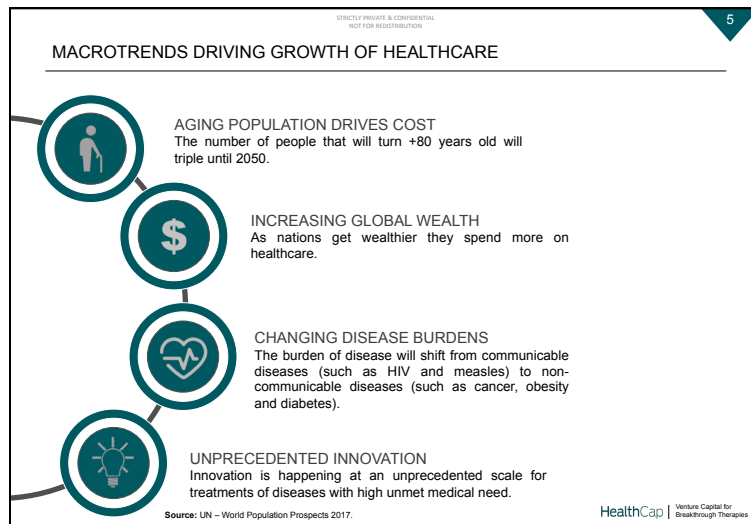
Agenda

- "Big picture" overview
- The young science based company
 - Its role
 - Its people
- Advantages and disadvantages
- Success factors
- Reasons for failure
- Money questions
- Valuation - what is it used for
- How does it work?
- Summing up

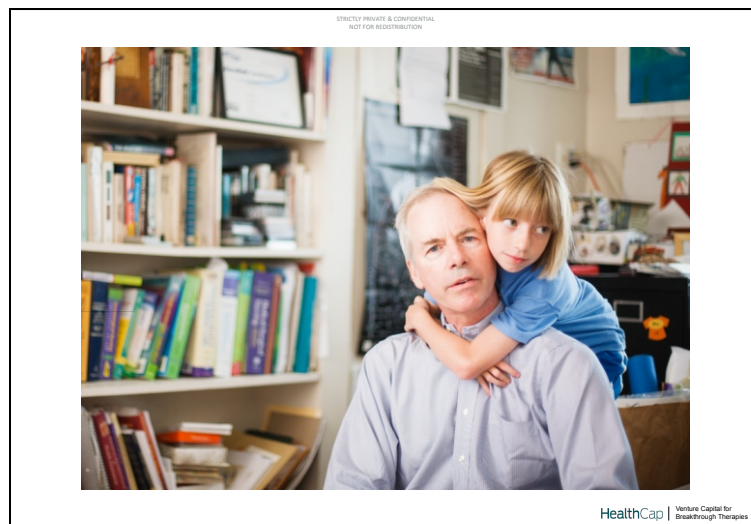
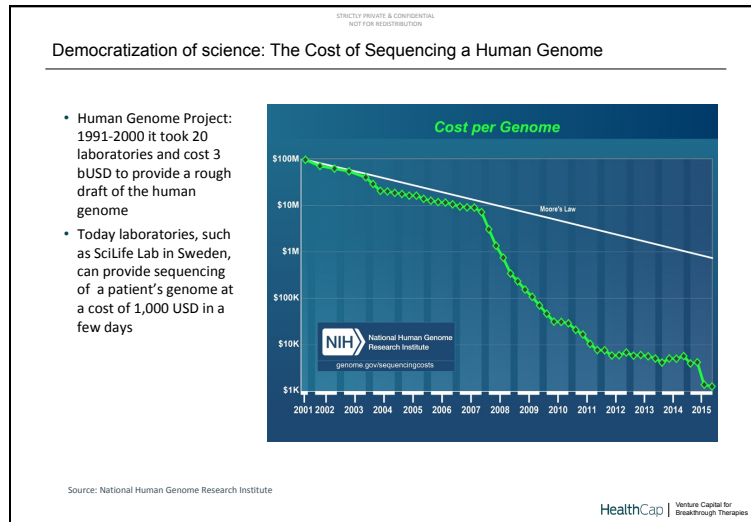
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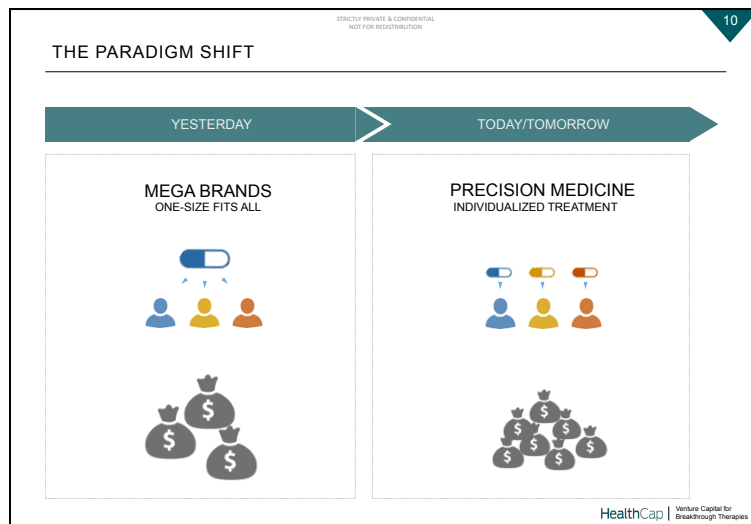
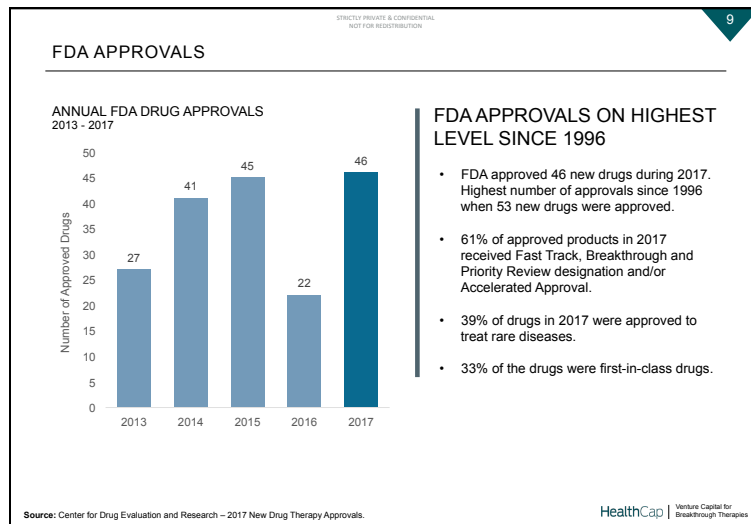
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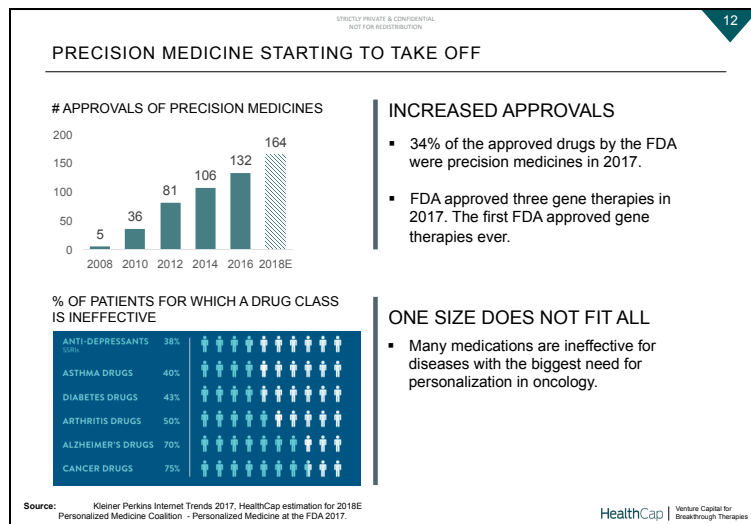
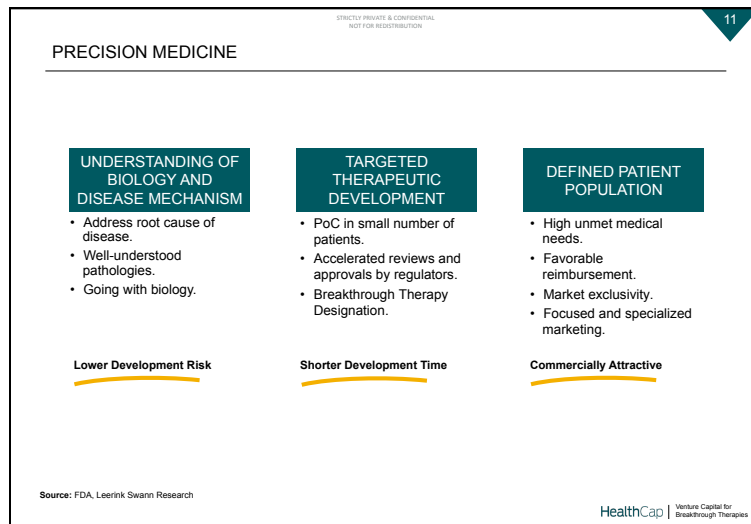


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New business models

- Partnering with big pharma
- Sub-blockbuster drugs
- Life-cycle management – improved formulations
- Specialized markets – orphan drugs
- Abandoned or overlooked indications
- Drug repositioning

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That's where the story really begins!

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First you dream...

- Business based on genius and innovation sprung from academic science
- No products
 - No customers - but sometimes collaboration partners
 - No "real" revenue - but sometimes an advance on future expectations
- Enthusiasm, competence, chronic lack of money

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...then you build!

- A winning team is the single most important success factor
 - Brilliant scientists
 - Developers with industrial experience
 - Dealmaker business developers
 - Management with industrial experience
 - Investors

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The challenge is complexity!

- R&D is complex, risky, and competitive
- Need to master many complex skills
- Many projects must run in parallel
- Raise capital while remaining in control of the company
- Create and nourish relationships with customers and investors

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Different size – different advantages

<ul style="list-style-type: none">• Small company<ul style="list-style-type: none">• Extraordinary level of innovation• Enthusiasm• Short decision lines• Few relevant priorities	<ul style="list-style-type: none">• Big company<ul style="list-style-type: none">• Functioning infrastructure• Focus on products• Patent know-how• Experienced developers• Quality assurance• Administrative and financial control
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The challenge: to leverage advantages from both the small and the large company world

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Start-up sets the pattern for future

- Early company structures don't change easily!
 - Strategic planning and execution
 - Company culture
 - People
 - Investors
 - Administration

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Innovation and Development

- Innovation
 - Genius based on education, experience and technical skills
- Development = planned process
 - Project plan (market- and resources analysis)
 - Specifications
 - Project management
 - Problem solving
 - Patents

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Innovation

- Dis-economies of scale
- Collaboration with innovative scientists
- Cutting edge know-how
- Access to technology
- Critical mass
- Encouraging technology transfer

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Product Development

- Aims to meet market needs and protect intellectual property
 - Market analysis
 - Profitability - prioritizing
 - Design
 - Quality
 - Compliance with authorities
 - Marketing & sales

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Project management - mainly about problem solving

- Demands on governance
 - Leadership, experienced BoD, focus on breakthroughs,
- Product
 - Necessary product development, develop patent strategy.
- Reduce risk
 - Manage complexity
- Finance
 - Control, external networks

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Business development

- Selling ideas - the Deal Architects
 - Renaissance people
 - Human psychology
 - Contract law
 - Scientific expertise
 - "Rainmakers"

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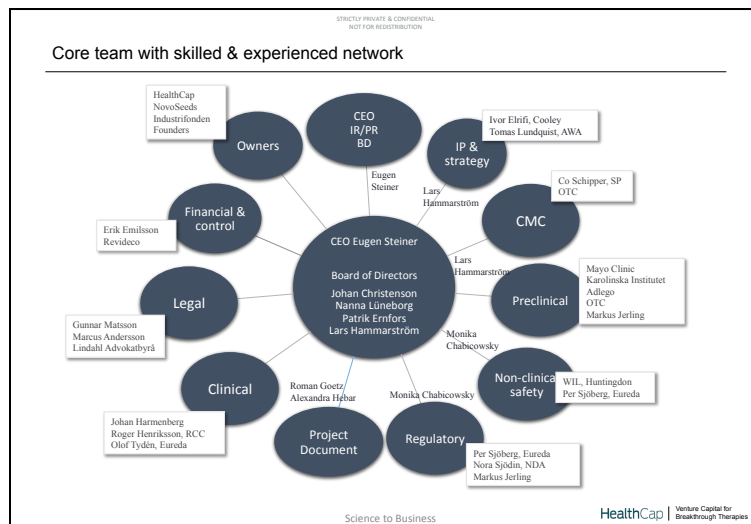
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Modern organization

- Focus on getting 1:st product to market
- Small specialist organization
- External network
- Tight financial control
- Quick gearshift in development work
- Variable rather than fixed costs

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Success factors

- "Unmet need", large potential market
- Innovation: quantum leap
- Adequate patent protection
- Winning team
 - Brilliant scientists, SAB
 - Developers with industrial experience
 - Management with industrial experience
 - Investors
- Focus on primary goals

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Milestones that drive value

<ul style="list-style-type: none">• Technology<ul style="list-style-type: none">• Discovery of a potential therapy• Optimization of a potential novel drug compound• In vitro and in vivo validation of the idea• Patents• Clinical data supporting the idea• Publication in scientific journals	<ul style="list-style-type: none">• Business<ul style="list-style-type: none">• Recruiting key people• Collaboration agreements• Acquisition of complementing products, patents or technologies• Professional financial and business control
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Reasons for failure

- Business
 - Overestimate market acceptance and underestimate competition
- Product
 - Technological problems, lack of patenting competence
- Risk analysis
- Financial
 - lack of control, too high fixed costs

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Value

- Value is the sum of all cash-flows of all projects in a company
 - Development costs for each project
 - Production costs for every product
 - Other costs (marketing, sales, administration, finance)
- Revenue (number of products sold x price charged)
- The real value is unknown and has to be guessed!

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Valuation - Not an exact science, whatever they tell you!

- Valuation is a price that somebody is willing to pay for a product
- Valuation is an effort to estimate "fair value"
- Valuation is based on
 - Real economic factors (e.g. interest rates)
 - Assumptions (e.g. market potential, probability of success, development costs, production costs, pricing)
 - Sentiment (market optimism or pessimism)
- Valuation is imperfect, unfair and varies over time

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So what is it good for??

- Project valuation and management
 - Stop/go decisions
- Portfolio evaluation and optimization
 - Prioritization between projects
- Company valuation
 - Investments, mergers&acquisitions
- Fund raising
 - What is my company worth?
 - How much will an investor pay
- Licensing and partnering
 - How do we share the costs and future profits?

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Valuation methods

- Calculation based methods
 - Based on projections of earnings
 - Discounted cash-flows (DCF) modeling
 - Leveraged buy-out (LBO) modeling
 - Accretion/dilution modeling (M&A)
- Comparison based methods
 - Comparable companies
 - Comparable transactions

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Probability adjusted costs

eNPV: \$12 million

Preclinical: go 70%, stop 30%

Phase I: go 70%, stop 30%

Phase II: go 40%, stop 60%

Phase III: go 75%, stop 25%

Registration: go 90%, stop 10%

Launch: 13%

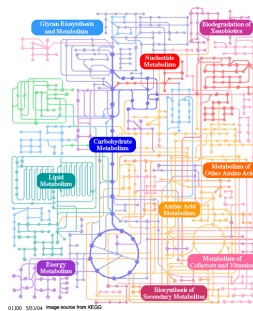
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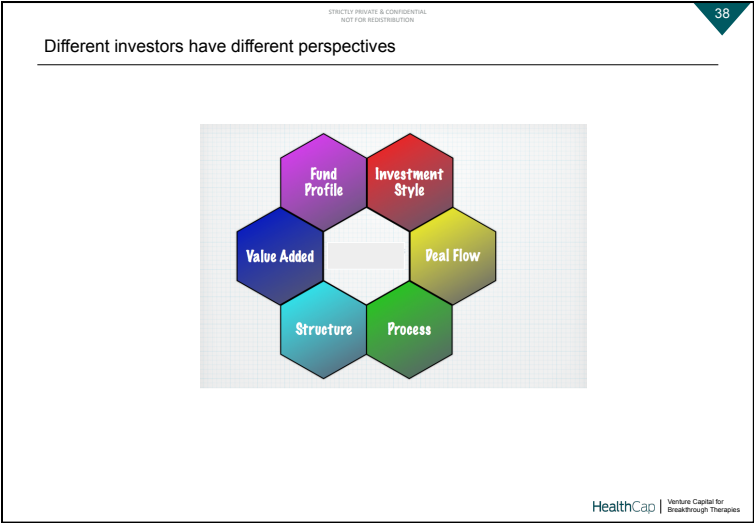
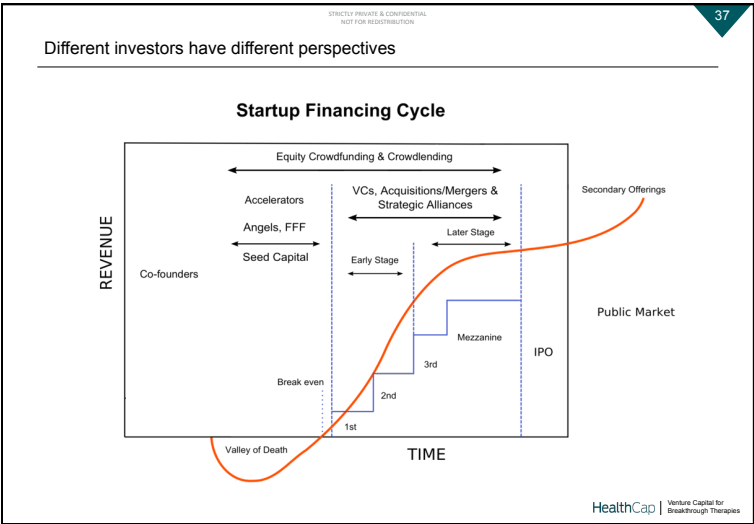
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The cost of time and risk

- If you put 100 USD in a bank with 5% interest, in 10 years you will have 163 USD - without taking any risk
- And what do you get for taking the risk?
 - 10% gets you 259
 - 20% gets you 619
 - 30% gets you 1378
- If a project does not generate positive discounted (=cost of time) and risk adjusted (=cost of risk) cash flow, then it is just not worth the trouble!

Raising capital





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GOING TO BED WITH INVESTORS...

- ...is like a marriage:
 - You don't marry just anybody
 - There must be "chemistry"
 - You get an outspoken partner for a long time
 - Your "baby" really challenges the relationship
 - Money is also important...

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VC:s provide

- Capital - multiple rounds
- Commercial and financial know-how
- Support for management
- Network
- The will and power to exploit synergies
- Legitimacy

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My experience

- Before investing
 - Long and frustrating process. Difficult to get their attention and focus amid all investment opportunities
 - Everybody knows everybody in Venture Capital
- During the vetting process
 - Well read, experienced, tough negotiators
- Going forward
 - Focused on creating value
 - Contribute time and network
 - Active owners - demand information and influence

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THREE SCENARIOS

- The homerun
 - Aggressive investment in development and
 - Short term goals met
 - Multiple rounds of fundraising
 - Medium range goals met
 - IPO or merger
 - Both founders' and investors' shares have increased in value, despite dilution

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THREE SCENARIOS

- The living dead
 - Aggressive investment in development and
 - Short term goals met
 - Multiple rounds of fundraising
 - Medium range goals not met
 - Company sold - investors recover some of their investment
 - Founders hired by buyer or leave the company

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THREE SCENARIOS

- Total failure
 - Aggressive investment in development and
 - Short term goals not met
 - Painful rounds of fundraising
 - Medium range goals not met
 - Company shut down or sold for scrap - investors loose their investment
 - Founders loose their company

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FINAL REFLECTIONS

- Destination unknown
- The road is unsafe
- (Getting there is half the fun!)

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FINAL REFLECTIONS

- Destination unknown
- The road is unsafe
- (Getting there is half the fun!)
- Three important rules:
 - TOANADI
 - IIOTTTI
 - The golden rule

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 - TOANADI (= Think Of A Number And Double It)
 - IIOTTTI (= If It's On The Table, Take It)
 - The golden rule

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